

IN THE CLAIMS:

Please enter the following amended claims:

81 1012. (currently amended) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule that hybridizes with the 6th to 3257th nucleotides of a nucleotide sequence of SEQ ID No:1 or SEQ ID No:5 under stringent conditions, and which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium ~~potassium~~ channel protein; and

b) measuring said index.

1113. (currently amended) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 1012.

1214. (currently amended) The pharmaceutical composition according to claim 1113, which is an agent for treating a central nervous system disorder.

1315. (currently amended) The pharmaceutical composition of claim 1214, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

1416. (currently amended) The pharmaceutical composition according to claim 1315, which is an agent for treating dementia.

1517. (currently amended) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

Cont. a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises the 6th to 3257th nucleotides of SEQ ID NO:1 ~~a nucleotide sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NO: 2 and SEQ ID NO: 6, and~~ which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium ~~potassium~~ channel protein; and

b) measuring said index.

1618. (currently amended) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 1517.

1719. (currently amended) The pharmaceutical composition according to claim 1618, which is an agent for treating a central nervous system disorder.

1820. (currently amended) The pharmaceutical composition of claim 1719, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

1921. (currently amended) The pharmaceutical composition according to claim 1820, which is an agent for treating dementia.

2022. (currently amended) A method of screening for compounds and peptides capable of modifying the activity of a potassium channel protein comprising:

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a) adding an agent to be tested to a system which comprises a potassium channel protein produced by expressing the protein in a host cell or on a surface of a host cell containing a vector comprising an isolated polynucleotide molecule which comprises a nucleotide sequence selected from the group consisting of the 6th to 3257th nucleotides ~~sequence of SEQ ID NO: 1 and the 4th to 3057th nucleotide sequence of SEQ ID NO: 5~~, and a nucleotide sequence which is degenerate with respect to said isolated polynucleotide molecule, and which has an index of modification of said potassium channel protein in response to a physiological characteristic of the potassium channel protein; and

b) measuring said index.

2123. (currently amended) A pharmaceutical composition which comprises as an active ingredient a compound or a peptide which is capable of significantly modifying the activity of potassium channel protein exclusively expressed in the brain and which is selected by the screening method of claim 2022.

2224. (currently amended) The pharmaceutical composition according to claim 2123, which is an agent for treating a central nervous system disorder.

2325. (currently amended) The pharmaceutical composition of claim 2224, which is an agent for treating dementia, cerebral ischemic disorders, or epilepsy.

2426. (currently amended) The pharmaceutical composition according to claim 2325, which is an agent for treating dementia.